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NPIC/P&DS/D/6-
18 April 1966

MEMORANDUM FOR THE RECORD

SUBJECT: Declaration of Surplus Equipment and Recommended Disposition

1. Under Contract

a Breadboard Model of a Multiple Image Correlator was developed to demonstrate a practical and productive use of the ~~already~~ laboratory proven principle of Multiple Image Correlation. This principle involves reducing the graininess of film by improving the signal-to-noise ratio which effects an improved definition in a photographic image. This is accomplished by precisely aligning (registering) several, separate identical, photographic images, taken from identical exposure stations, then photographing the combination. This process neutralizes the random non-image forming silver grains which in turn enhances the image forming grains or the apparant definition.

The Multiple Image Correlator was designed to incorporate this principle in a device that would produce two through eight projected superimposed images onto a single viewing and exposing station. Registration of the individual images was to be accomplished by initially performing a manual coarse alignment and then an automatic electronic correlation system would provide the required precise image registration. While under contract, all efforts to get proper functioning of the electronic correlation system, failed. Consequently, the breadboard model, at completion of

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the contract, was brought into the Center to determine the practicality of utilizing only the manual method of registration. The machine has been in the Center for almost 3 years and limited success has been achieved. However, it has been determined that there is no practical application for the equipment for the following reasons;

a. The operation of registering the multiple images is extremely long.

b. The optical system of the breadboard is so poor that only the very center of the images can be registered.

c. The machine vibrations prevent maintaining image alignment. At the very best, only ⁴⁶three out of the eight images are in register at any given time.

2. It is felt that the breadboard model of the multiple image correlator can never be successfully demonstrated to prove any practical application. All experimentation and testing has long ceased and the equipment is occupying useable space in the equipment test room. It is therefore recommended the Multiple Image Correlator be declared surplus and salvaged. The device does contain two useful D. C. Power Supplies. It is recommended these power supplies plus any other useable components be removed by EPD/DB/P&DS for their use and the remainder of the correlator be removed from for subsequent disposal.

3. The principle of Multiple Image Correlation is sound and further investigation of a practical application will probably continue. However the existing breadboard cannot be used in any follow-on effort.

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